6.1 Introduction

This and the following two chapters present empirical results corresponding to Chapters 3-5; therefore this chapter considers a selection of national and international findings, Chapter 7 looks at regional issues and Chapter 8 deals with the urban dimension.

We begin by returning to single equation house price models, having already set up the appropriate theoretical framework in Chapter 3. However we saw in Chapter 2 that the long-run trends in real house prices differ across counties. It is important to explore why these differences occur. Is there something fundamentally different in the nature of housing markets between countries, which means that the same theories cannot be used internationally or are there merely relatively minor differences in the model coefficients? We investigate quantitative results from different house price models. Furthermore since, under some circumstances, house price equations can be seen as inverted housing demand functions, there should be a correspondence between the parameters of house price equations and direct estimates of price and income elasticities of demand. We compare the results of these different approaches. In previous chapters, we stressed the importance of aggregation biases. Therefore, in the single equation context, we examine evidence for structural price changes arising from the labour market.

The following section considers joint models of prices and housing construction. These can be considered as a generalisation of the two-equation Poterba (1984) model. In Chapter 3 we noted that, typically, such
models did not generate housing cycles. Cycles in housing can, however, be investigated by using more general techniques taken from the business cycle literature. By constructing a vector error correction model (VECM) of prices, building activity, construction costs and interest rates, consistent with the stock/flow framework, cyclical behaviour may be modelled. The section also discusses the importance of supply elasticities in the construction equation stressing, as in DiPasquale and Wheaton (1996) and Stein (1995), that although supply may be inelastic with respect to the level of prices, the rate of change of prices may still have a major influence.

Section 6.4 constructs a joint model of prices and property transactions. This is in the tradition of recent US work but, as in Chapter 3, stresses how prices and transactions respond differently to housing market disequilibrium induced by either demand or supply shocks. The model preserves the property that permanent shocks have permanent effects on prices, but only temporary effects on transactions, although both are positively correlated in the short run. We also discuss the reasons why transactions have been exceptionally low in the UK in the nineties and the relationship to low rates of new household formation.

Finally, Section 6.5 discusses housing as an element of full macroeconometric models of the economy. This allows us to quantify the circular linkages between housing and the economy and the size of any multipliers in both the short run and the long run.

6.2 House Price Models

The starting point is equation (3.12) - which defines the basic life-cycle or arbitrage equation. For convenience this is repeated as equation (6.1). In Chapter 3, in discussing the Poterba stock/flow model, we rewrote the condition slightly, simplifying as in (6.2).

\[ g(t) = R(t)/[(1-\theta)i(t) + \delta - \gamma(\pi + \dot{g}^e/g(t)) + \lambda(t)/\mu_c] \]  

(6.1)

\[ \dot{g} = a_1(g) - a_2R(H,HH,RY,W) \]  

(6.2)

Note that (6.2) ignores the rationing term. Since rationing has been absent since the early eighties in the UK, we ignore this complication for the moment, although this will re-enter the picture later.